

**IN THE CLAIMS**

**This listing of the claims replaces all prior versions of the claims in the application.**

1-22. (Canceled)

23. (Currently Amended) An isolated polynucleotide encoding a polypeptide ~~of claim 21~~  
selected from the group consisting of:

- a) a polypeptide comprising an amino acid sequence of SEQ ID NO:1,
- b) a polypeptide comprising a naturally occurring amino acid sequence at least 90% identical to an amino acid sequence of SEQ ID NO:1, said polypeptide having ATPase activity,
- c) a biologically active fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, said fragment having ATPase activity, and
- d) an immunogenic fragment of a polypeptide consisting of an amino acid sequence of SEQ ID NO:1, wherein said fragment comprises at least 15 contiguous amino acid residues of SEQ ID NO:1.

24. (Currently Amended) An isolated polynucleotide of claim 23 comprising a polynucleotide encoding a polypeptide ~~of claim 22 comprising an amino acid sequence of SEQ ID NO:1.~~

25. (Previously Presented) An isolated polynucleotide of claim 24 comprising a polynucleotide sequence of SEQ ID NO:2.

26. (Previously Presented) A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 23.

27. (Previously Presented) A cell transformed with a recombinant polynucleotide of claim 26.

28. (Currently Amended) A method of producing a polypeptide ~~of claim 21~~, the method comprising:

- a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide ~~encoding the polypeptide of claim 21~~ 23, and
- b) recovering the polypeptide so expressed.

29. (Previously Presented) A method of claim 28, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO:1.

30. (Previously Presented) An isolated polynucleotide selected from the group consisting of:

- a) a polynucleotide comprising a polynucleotide sequence of SEQ ID NO:2,
- b) a polynucleotide comprising a naturally occurring polynucleotide sequence at least 70% identical to a polynucleotide sequence of SEQ ID NO:2,
- c) a polynucleotide complementary to a polynucleotide of a),
- d) a polynucleotide complementary to a polynucleotide of b), and
- e) an RNA equivalent of a)-d).

31. (Withdrawn) An isolated polynucleotide consisting of at least 25 contiguous nucleotides of a polynucleotide selected from the group consisting of:

- a) a polynucleotide consisting of a polynucleotide sequence of SEQ ID NO:2, and
- b) a polynucleotide complementary to a polynucleotide of a).

32. (Withdrawn) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 30, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under

conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

33. (Withdrawn) A method of claim 32, wherein the probe comprises at least 60 contiguous nucleotides.

34. (Withdrawn) A method of detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 30, the method comprising:

- a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and
- b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

35. (Withdrawn) A composition comprising a polypeptide of claim 21 and a pharmaceutically acceptable excipient.

36. (Withdrawn) A composition of claim 35, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO:1.

37. (Withdrawn) A method for treating a disease or condition associated with decreased expression of functional MHCH, comprising administering to a patient in need of such treatment the composition of claim 35.

38. (Withdrawn) A method of screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 25, the method comprising:

- a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,

- b) detecting altered expression of the target polynucleotide, and
- c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.

39. (Withdrawn) A microarray wherein at least one element of the microarray is a polynucleotide of claim 31.

40. (Withdrawn) A method of generating an expression profile of a sample which contains polynucleotides, the method comprising:

- a) labeling the polynucleotides of the sample,
- b) contacting the elements of the microarray of claim 39 with the labeled polynucleotides of the sample under conditions suitable for the formation of a hybridization complex, and
- c) quantifying the expression of the polynucleotides in the sample.